

Approved

**MINUTES
LOUISIANA OPTICAL NETWORK INITIATIVE
MANAGEMENT COUNCIL**

October 14, 2014

The Louisiana Optical Network Initiative (LONI) Management Council (MC) met at 1:00 p.m., Tuesday, October 14, 2014, in the Board Conference Room, 6st Floor, Claiborne Building, Baton Rouge, LA. Dr. Michael Stubblefield asked for a roll call. A roll call was taken and a quorum was established. Dr. Stubblefield welcomed everyone.

Council Members Present:

Mike Asoodeh
Clarence Copeland for Beth Courtney
 via telephone conference
Gene Fields *via telephone conference*
Barbara Goodson for Commissioner of H.E.
Richard Howze
Lonnie Leger
Ramgopal Mettu
Brian Nichols
Bettina Owens
Ramu Ramachandran *via telephone conference*
Ram Ramanujam
Michael Stubblefield
Greg Trahan
Leo Tran for Charlie McMahon
Rachel Vincent-Finley
Melva D. Williams

Guests:

John Caffery, LONI
Patrick Keenan, LONI
Kathy Thomas, Dell
Hunter Ely, Tulane
Anthony Morris, Dell
Angela Mastainich, BoR
Lance Neal, BoR
Jay Bonanno, Dell
Honggao Liu, LSU CCT
Harold Boutté, Board of Regents

Council Members Absent:

Thomas Lovince
Eric Setz

Guests:

Brett Brock, CISCO
Seung-Jong Park, LSU CCT
Ric Simmon, LSU ITS
Beth Alber, Juniper
Sam White, LSU

Dr. Michael Stubblefield welcomed Ms. Williams, the new appointment from Xavier, to the board. He asked everyone to look over the July minutes. Dr. Stubblefield entertained a motion to approve the minutes.

APPROVAL OF JULY 15, 2014 MINUTES

On a motion from Ms. Barbara Goodson, seconded by Dr. Ramgopal Mettu, the LONI Management Council voted unanimously to approve the minutes of the July 15, 2014 LONI Management Council meeting.

Dr. Stubblefield asked Mr. Leger to give the Chief Advisor Reports/ Recommendations.

CHIEF ADVISOR REPORTS/RECOMMENDATIONS

Mr. Leger began with the Network Update and stated he has asked Mr. John Caffery, one of the LONI engineers, to provide comments. Mr. Caffery began with LONI 2.0 and went over the Optical Architecture and Router Architecture and explained that one of the events they were able to do, that is not listed, is establish a 100 gig connection to Internet 2 at the Level 3 facility along Burbank. He discussed the Activities and then went to Network Accomplishments. Mr. Caffery explained that we are continuing to work with DOTD to utilize and share fiber with them. Mr. Leger further explained that they are creating a document to gain access to additional resources on the DOTD network that we have been utilizing associated with a CEA for nine years. DOTD has expanded their fiber system and we are in the process of obtaining access to their expanded fiber system through this document. The document has been circulated with the Federal Highway Administration (FHWA) and we're, hoping that on Friday the formal document will leave DOTD officially going out to the FHWA to obtain the right of use. With that we expect nearly 100 additional miles would become available to us for use. We will still have to improve and make the fiber system usable and fitting for our needs, but that will give us potentially 100 miles to 130 miles, we are not sure yet, in the metropolitan areas of New Orleans, Baton Rouge, Lafayette, Lake Charles, Monroe, and Shreveport. Hopefully, at the January meeting we will have an agreement executed on our ability to use more of their infrastructure. Mr. Caffery continued to go over the Network Update, but asked about the second LSU-NSF. Mr. Leger stated this one is for Dr. Parks, Big Data Proposal award, we have the equipment and we are just doing our process – internal ordering to get it connected. Mr. Caffery continued with the Network Accomplishments and stated that ULL is still waiting for additional equipment. Mr. Leger stated that both ULL and LSU have to order some additional items to establish a 10 Gig connection to the Science DMZ. Ms. Goodson asked about the new Super Computer that is being put in at Tulane. Mr. Leo Tran stated they will be putting in a new Super

Computer. Ms. Goodson asked about the size of this computer. Mr. Tran stated that it is one quarter of SuperMIC. Mr. Sam White stated it is 128 nodes. Mr. Tran stated it is 128 nodes, Mr. Leger stated that QB2 is 480 nodes, Mr. White stated QB2 is 504 nodes if you consider all the different types. Mr. Caffery continued with the Network Accomplishments. Mr. Leger stated that he received the signed paperwork from Dillard University, they have elected to connect to the LONI Network for their network services. Another new development is, based on a recent decision by the Regents Staff, we have decided to offer network services to University Health in Shreveport, now the private health provider once of the LSU Medical Center in Shreveport. The former Charity Hospital run by Children's Hospital has also inquired about retain their network services through LONI but no decision by Children's has been made. Mr. Leger stated that rest of the report is typical of our short-term and long-term strategies that we've been working on. Probably the biggest one, short-term is the fiber to Nicholls has been in place for some time, but because of their operations schedule we were not fully able to convert them until the end of the semester. So, we will be doing that in December. Dr. Asoodeh asked about a redundant connection at Southeastern. Mr. Leger stated he would cover that in his Executive Director Updates.

HPC Update

Mr. Sam White began with discussing the installation of QB2 cluster. Dell finished their work on the cluster last Friday, there is a configuration from APC on the inside cooling, the outside chiller work is complete. He went over the information listed on the HPC Update. The target date for decommissioning is December 1, 2014, but if a campus wants to keep running a little past that date, it would not be an issue. But, we have to keep in mind that the equipment will have to be scheduled for removal with Property Control employees. Mr. Leger asked if the Top 500 benchmark seem to still put us at about 37th? Mr. White said "yes", we did run a Top 500 benchmark and it would have put us at 37th, in the last Top 500 list. We believe that is good enough to make the Top 50, we have over a Petaflop. Mr. Leger stated that this is a high proficiency performance, Mr. White stated that we have over 71% proficiency on the QB2 and we had only low 60s on the Super Mic. As comparison the original Queen Bee was almost at 70%. Dr. Ramanujam asked if we had the deadline to report QB2's performance numbers for the November list of the of TOP500? Mr. White responded that the submission date was October 25th and we submitted in time for the November list. Mr. Trahan asked if this is an ongoing benchmark? Mr. White state "yes", Dr. Ramanujam stated it is every May and November, actually June is when it is released and in November. Mr. White said it is released twice every year. Ms. Goodson asked if we will have some good

news for a press release, about our standing? Mr. White replied “yes”. Mr. Leger further clarified that unless a machine is decommissioned, it stays on the list, and he explained how the list is compiled.

Dr. Stubblefield asked Mr. Trahan, Economic Development Advisor, to present his Economic Development Update/Survey Results which was provided in the meeting folders and a PowerPoint presentation. He went over the information and explained conversations he has had with interested parties. Dr. Tran asked about the 1,674 total fiber miles in the Network, listed on page 12 of the handout, if it is one strand of fiber or multiple strands of fiber? Mr. Leger answered that it is route miles, so if we have multiple strands in the same distance, we multiply it. Dr. Tran seemed to think that number is low, if we multiply it. Mr. Leger stated it is about right, it’s really route miles of fiber we have. Dr. Stubblefield thanked Mr. Trahan and asked if there were any comments or questions.

EXECUTIVE DIRECTOR UPDATES

Mr. Leger stated that at the last meeting Mr. McMahon asked to have Security Working Group established. On a call on Friday, October 10, 2014, Mr. Leger convened the group, Craig Callendar - LSU System, Chris Miltenberger - LSU System, Gabriel Fagbeyiro - Southern University System, Hunter Ely - Tulane, Charles Broome - University of Louisiana System, Ray DeJean - University of Louisiana System, and Karl Findorff – LAICU, in conjunction with Mr. Gene Fields on a governance model as to how security information and their participation will flow. They basically will set up a self-governance structure and determine how they will operate. In the first meeting on the telephone, they elected a Chairman and Vice Chair, Hunter Ely is the Chairman and Charles Broome is the Vice Chair. I set-up the group up with an Email Listserve and Mr. Leger asked them as their first assignment to help LONI establish a security policy. LONI does not have a security policy, per se, we utilize each of the institutions policies. He further stated that Mr. Eric Setz asked about the risk analysis of our fiber, our fiber plant and where we are, when things are coming due. There is a table on the fiber schedule and a graphic with dates, also. He went over the graphic and explained the color coding. Mr. Leger introduced a new staff member, Mr. Patrick Keenan. His primary focus is to address the fibers that are terminating and how we plan for it. Not only plan for what they serve today, but what we want them to serve going forward. Mr. Leger referred to the dash lines on the Fiber Routes. LONI will be partnering with Pennington to look at how to deliver a fiber owned asset to the Pennington Biomedical Research Center. This partnering leads to discussions about what happens along the Essen Lane corridor, with all of our constituents, as well as, Department of Transportation as a partner. There will be information from the LONI group that focuses on a given area which we will be asking for your input to make sure that LONI

is not missing anything in these settings as we go about create our new fiber infrastructure. As an example, there are a number of participants in the Essen Lane area, including LPB, Pennington, LSU Burden Center, Our Lady of the Lake College, Southeastern Nursing, and LSU Rural Life. Those are some that come to mind quickly. We are preparing and designing for not only what we serve today, but for our potential growth and future needs. We will be getting solicitations out and working with providers, not just from an acquisition stand-point, but how we will collaborate private/public partnerships, where their investment coincides with our investment. Mr. Leger wants to put together a foundation of dates, where we are in our schedule, but, also, put that in a visual form so we can all see the things we are discussing. We will also put together and submit to you Google Earth illustrations that are very detailed on what we are doing, so you can provide feedback on additional assets, contacts, and options that we should consider to have a better product. Ms. Goodson asked if we have to do RFPs for each or are there some with DOTD that can be removed. She identified six (6) within a year that we have to handle. Mr. Leger stated that in Baton Rouge, those six routes, he hopes all or at least a majority of those, and the new DOTD assets he mentioned earlier, will be put into a new agreement. Ms. Goodson stated that if we have to do RFPs, Mr. Howze needs to know. Mr. Leger stated that LONI has delegation authority. Ms. Goodson stated that she is aware of that, but there is still a process that we have to go through, so she just wants to know if the six can be handled through agreements with DOTD. Mr. Leger stated that Circuit 1, Route 3A “yes” (DOTD), Circuit 1, Route 1 “about 50% DOTD and the other 50% will be combination of we can obtain and what we can build”, Ms. Goodson asked that when we do these what is the timeframe to get the RFPs and these bids out? Mr. Leger stated that when we did the first bids, to the best of his recollection it was 30 – 45 days to be on the street and about a 14 day dispute period, then sign the contractual agreements and that depended on the vendor, not the State, then there is a deliver period. If it is something that is already in the ground, then we may be getting it in 90 days, but is it is something that has to be constructed, to suit our need and solicitation, that is easily 180 day process. Ms. Goodson stated that we have to write the RFPs, Mr. Leger stated that Mr. Keenan is writing the RFPs. Ms. Goodson stated that on the second one to Southern, if we don’t know what part will be handled through DOTD and what part we will have to make other arrangements, it complicates the writing process. Mr. Leger agreed and stated that’s why the need to finalize the agreement with DOTD is so crucial. He further stated that they had met with DOTD earlier today, they are finally getting into their design flow and their investment flow, so that we can communicate our need. Also, communicate where we might need to invest as a State, versus just invest for the department. He is relatively confident that he knows where that exist, just from being around so long, he knows where their assets are, that’s why he thinks it will be 50%/50%. Ms. Goodson asked if any of the others are 100%? Circuit 3, Route 5 will

probably be a 50%/50%, Circuit 4, Route 7, he believes that will be taken care of with the Pennington, they will piggyback on that design, so they think that will be 100%. Circuit 6, Route 2 and Circuit 5, Route 1, they will be 100% DOTD. Ms. Goodson asked about the process of LPB to LSU and we are piggybacking on Pennington, will that be an RFP and construction or lease? Mr. Leger stated that we don't know exactly what we will get back until it is put out on the street, which Mr. Keenan is working on, we have a financial commitment from Pennington to move forward, it's just a time in getting it done. Dr. Stubblefield asked if we anticipate releasing the RFP this calendar year? Mr. Leger stated, before Thanksgiving to have the document ready to be distributed and out, so hopefully by early January we can make an award. Dr. Stubblefield asked if there is any action by the Management Council needed. Mr. Leger stated that not at this time, this is just for informational purposes and letting everyone know where we stand. Dr. Stubblefield stated that he was questioning because the Management Council does not meet again until January. Mr. Leger stated that right now, he can't think of any action needed by the Management Council. He will be sharing information electronically as it becomes available. If any action by the Management Council is needed, it will be handled as it develops. Ms. Goodson questioned if the Pennington and Essen Corridor will be done at one time? Mr. Leger answered "yes". Ms. Goodson asked about the route, LPB on Perkins, down Essen, back down Perkins to LSU? Mr. Leger stated that this is one of the first routes that Council through Google Earth, it will come from the LSU Campus along Burbank, we have a cable that we lease along Burbank, northward along Staring to Essen to the Interstate at I-10, use our partnership with DOTD to come back to what we have constructed to Nicholson Drive at the foot of the Mississippi Bridge. That will create a "ring" protecting the services and assets along Essen Lane, including LPB which is 1½ block off Essen at Perkins. Ms. Goodson asked, since Mr. Keenan is writing an RFP, and Mr. Leger has just mentioned several different entities along Essen and has asked if anyone knew of any others, Ms. Goodson wanted to make sure all members were aware to make sure we have all entities covered. Mr. Leger agreed that they want to make sure that all entities are cover and if someone knows of any additional that he has not mentioned they need to let him know. They met with OLOL College last week, we've talked to Southeastern and LSU, we've talked to LPB and Pennington multiple times. We will share the data just to make sure they have not forgotten anything. Dr. Stubblefield asked if the RFP will be let out by the Board of Regents? Mr. Leger stated the RFP will be let out by State Purchasing from the Board of Regents. Dr. Stubblefield asked, just to make sure, if the Council will have to take any type of action before January. Mr. Leger stated that to his knowledge, the Council will not have to take any type of action. He went through the process explaining that Board of Regents will create requisitions in the ISIS System, route the requests through State Purchasing, and take our RFP and advertise it for us. As responses come in State Purchasing will help us collect those, go

through the award recommendation process and go back through State Purchasing to handle the award and contractual processes. Ms. Goodson asked the Chair to circulate a list of the entities in that corridor, since this will be our first trial run, to make sure we are not leaving someone out or forgetting a connection that may be one street over or something like that, so everyone has time to talk to their partners on their campuses and their schools and make sure we have covered everyone. Dr. Stubblefield asked that there be sufficient information attached to what is sent out so everyone will know what they are looking at and what information we are needing from them. He also asked Mr. Leger to provide the Management Council some proposed action as to what he would like for the Council to do. Ms. Goodson asked about the Hammond area, does that mean that we have to acquire fiber or build some on the Hammond circle? Mr. Leger stated LONI has reached out to numerous providers in the area in each of the markets, the metropolitan cities, to determine what assets they have, what capability they have, their willingness to respond, and to what type of format they would respond to, we would need to, in the solicitation, RFP, in the Hammond make sure we get the full scope of the services for the next couple of decades, for Southeastern. They have considered several different scenarios on how to support in each of the markets where we have the LCTCS schools, in relationship to the universities. There is one in Hammond and several in the Florida parishes. We have had conversations about the impact and how we can make it potentially affordable to get broadband to the rural areas. Ms. Goodson stated that the LCTCS is moving forward with a huge expansion, they have \$350 million to build new buildings, and she wants to make sure we have an open communication line, so that while they are building we have the fiber available for those schools and new sites. Mr. Leger stated Mr. Setz has given him a list and he plans to incorporate that information in conversations with the Facilities Corporation to let them know what can be done and how we and advance that agenda. Mr. Leger further stated that Mr. Setz will represent the System because of the importance of the service model for all of the sites across the state. Mr. Leger is encouraged by Mr. Setz participation and he plans to follow-up with him. He will check with Mr. Setz to see if he can prepare an update on where they are in their construction and timeline for the January meeting. Dr. Asoodeh asked if the chart means they will have redundancy within Hammond, but not outside? Mr. Leger stated, both, it will look like a ring. At the DOTD meeting, they agreed to do the improvements to create a dual entrance into that campus for LONI. If we can't find an alternate way to get to the network, for a backbone perspective and have to come back to DOTD, we will have a dual entrance totally separate and geographically separate, one exists on the south side of the campus and we will build one on the north side of the campus. They will come under the same computing room on their campus, but will then have a dual entrance. Dr. Asoodeh stated Southeastern needs that area, but with DOTD they are still not redundant. Mr. Leger agreed and stated LONI is working with DOTD to build it

and understand where their assets are. He stated that LONI did a survey this past summer along I-12, we now have access to assets along I-12 that we didn't have before. Now LONI is working to see how to intercept those assets without coming back to the district office. When that is accomplished we will have geographic backbone diversity, so it is in the works. He further stated that we have the means to go back to see if we can create a unique splice entry for that project to create some diversity. Mr. Leger stated that at the last Council meeting, Dr. Ramanujam had the idea, because our architecture is much different in QB2 with the accelerators that can be used, of how we will educate our researchers on how to utilize and take advantage of the new technology. Mr. Leger has asked Dr. Ramanujam his ideas on how to do the professional development. Dr. Ramanujam stated that he will be working with Mr. Nichols, Rick Simmons, and others through the State to build up a plan and he should have information to present at the next meeting. Mr. Leger stated it is a great idea to have a statewide collegiate plan of how to dive into this new technology and architecture and educate our researchers statewide on its ability.

Mr. Leger stated that he participated in a roundtable at LSU Health Sciences Center with the LSU System on big data opportunities and initiatives. He asked Ms. Owens to provide a synopsis of that dialogue. Ms. Owens stated that Rick Simmons gave an excellent presentation, as well as, Dr. Ramanujam. She said it was a great meeting, LSU presented what have put in place for big data and the infrastructure from all of the grants that have received and Lonnie presented on what LONI has. What she got out of the meeting is the same information that Mr. Trahan has sent out a survey, is how we reach out across all of the entities and get everyone to collaborate and to use the resources that are available, rather than everyone creating their silos. LSU and LONI, together, have put together a great infrastructure, but there is one piece that is missing, which is the storage. Everyone has their own data and their not sharing their data, but there is no one place for everyone to put their data and share their data. In today's world, with the advent of big data, if you are doing research, you can't just depend on your data. Researcher need to interact and interface with everyone's data. She thinks the Working Group will mesh with what Mr. Trahan has suggested with Economic Development, reaching out to all different entities, to get everyone involved to have homogeneous type storage devices and infrastructure at each location. This would allow those that want to share data, everyone has the same information and you are not trying to get something to work together and have to get special equipment to make it work. Mr. Leger stated that he and Mr. White have been deliberating how to offer a centralize storage repository. He also stated that we might need it because of QB2 due to its success. The utilization of QB2 will almost demand it. In the same regard, how do we create a centralized repository that will allow each individual campus to have this "cashing" device that will allow researchers to load information to their local and allow the "cash" device to load it to a centralized capability and vice versa. This will allow a

researcher to pull it down from the centralized location when they need it. It's "cashed" for some length of time for speedy access because they need to work with it and then when it is memorialized and needs to have a version kept, it's backed up to a centralized capability. He and Mr. White have been discussing whether LONI can get to the point of offering that as a service. The big data need of integrating all this data from a "cashing" standpoint because it will take a lot of transfer, it's a lot of information, and we will need technology not just at a centralized point of view, but we will need technology at each of the campuses that become part of the ecosystem of how we quickly and efficiently transfer the data so the researchers don't feel like they provided something to LONI and then they have to wait some length of time to get a result. That would defeat the purpose of trying to have this collaborative opportunity. Ms. Owens stated that Lonnie has spoken with LSU about the last yard. She stated that LSUHSC has the problem with the last yard and if we have a centralized device with things that people can share, you have to make sure that your network to where your labs are located is good enough, because if they can't get their data to that location, that is an important piece of it. Mr. Leger stated it is like we are always pushing the bottle neck, because of technology that is implemented or available to the market, we move items up and then the campuses are trying to figure out how they take items and move it deeper within each of their buildings closer to the laboratories or their researchers. This is good because that means we have an innovative way of how to do things and new approaches and hopefully science discovery that matches that potential. Ms. Owens stated that taking big data aside, if LONI was offering some type of storage for rent as an operational means, she thinks that is something that all would take advantage of. Ms. Goodson asked if they were discussing that with Shreveport Cyber Innovation Center. Mr. Leger replied "yes, we've had numerous conversations". He thanked Ms. Owens for her feedback. Mr. Leger stated that recently with the help of the Board of Regents and the Division of Administration, LONI obtained a "Delegation of Authority" to utilize a nationwide consortium that LONI has been a part of for many years, to obtain internet service, as we did in our first years, at a much reduced rate. We don't know exactly what that will mean to us, in our financial model, we are now in the process of following up with paperwork, transferring ownership of the accounts and LSU procurement is working on that. He hopes to have that all resolved before the end of the month, at least one of them by the end of the month. That will avail us to larger capacities at more cost effective rates.

OLD BUSINESS/NEW BUSINESS

Dr. Stubblefield began with the proposed LONI Meeting Dates for 2015 that are in the meeting folder. They are each the second Tuesday of month at 1:00 p.m. If all agree, these will be the meeting

dates for next year. On motion of Dr. Mettu, seconded by Mr. Leger, the Council voted unanimously to approve the proposed LONI Meeting Dates for 2015.

Dr. Stubblefield asked Dr. Asoodeh to move forward with the election of officers. Dr. Asoodeh stated that last year due to the Chair's retirement, we needed to nominate and elect a new Chair to fill the remaining appointment. We are now electing officers for the regular two (2) year term. The subcommittee, Dr. Vincent-Finley, Dr. Owens, and Dr. Asoodeh are nominating Dr. Stubblefield for Chair, Mr. Nichols for Vice Chair, and Dr. Asoodeh for Secretary. Dr. Asoodeh opened the floor for other suggestions, if anyone would like to nominate someone else. Ms. Goodson moved to accept the recommendations of the Subcommittee, seconded by Dr. Vincent-Finley, Dr. Asoodeh stated we have a motion and second, he asked for any discussion, all in favor, motion passed.

Dr. Stubblefield asked if there was any addition to the Old or New Business Reports. Ms. Goodson stated that since the Council only meets four (4) times a year, and there is a lot of business for the Council to do with the routes, she asked if we could get on some type of regular email communications to make sure we stay up-to-date like the negotiations with DOTD She would like to make sure Angela Mastainich with the Board of Regents goes with Mr. Leger to the DOTD meetings and she wants to make sure she is included on all information. Ms. Goodson further stated that between now and June 30th and next October, we are dependent on this network being viable. Mr. Leger stated there are two things he will commit to, one a regular dialog around the information pertain to the fiber route replacement because the replacement process is somewhat organic based upon discovery of information including the council's feedback and direction, and secondly, we have to figure out, with Sam's help, how to create a storage place to share the documents a little more effectively than just continually just passing around emails. We would be able to create documents and share the links with you so you can have access to them anytime, anyway and anyhow. It might be a little easier for the Council rather than emails. We will experiment and see what works best for the Council. Mr. Nichols asked if he needed any help from the Council members to get the RFPs done, or is there anything else we can do? Mr. Leger stated that LONI has a great boiler-plate because of our previous work which was successful. He plans to use the same format that was successful. Mr. Keenan is working on getting the updated boiler-plates that are active and current with best practices in law, in the statutes in State. We will use the same format we used ten (10) years ago to initiate what we have now. We learn in that process through the addendums and feedback, so we will take it and produce a product as we did previously. The biggest concern is that we don't forget anything through this plan and we didn't forget anyone. There are a lot of details that will go into the RFP and it is all physical. Dr. Stubblefield stated that if necessary we can request a special meeting, Mr. Leger stated that may be needed. Mr. Nichols asked about the length the agreements once

they are signed. Mr. Leger stated his hope is 10 years maximum, we do have some legal limitations. Legally the State identifies this as leasable property, which means we are limited to 10 years, which is the maximum. The ones that we had lease arrangements with have been for 10 years, with an option for a 10 year renewable. Mr. Leger stated that this seems to give us the best price rather than a straight lease. Dr. Stubblefield asked if there was any other business to come before the group. Dr. Ramachandran, by telephone, stated that previously there was discussion about software availability on QB2. Now that the machine is installed, it's almost ready to be turned over to users, his assumption is that all the software currently available on Queen Bee will also be available on QB2, is that a safe assumption? Mr. White responded it is a pretty safe assumption, but he needs to know exactly what Dr. Ramachandran is referring to. Dr. Ramachandran referred to the LONI webpage of the software available on Queen Bee as being a very impressive list. Mr. White stated that initially all that software may not be available, they will deploy a certain software stack, but if there is anything missing that we can add to that, we will pursue looking at that. Dr. Ramachandran stated that Computational Chemistry is one of the heavy users of Queen Bee and also the other LONI machines. Gaussian is probably the most widely used Computational Chemistry package, unfortunately, Gaussian has a weird licensing paradigm., To make Gaussian available to everybody in the state, from a centralized computer which we have in QB2, there is a one-time cost of \$35,000 for a commercial license., but it is a one-time purchase. It is not an annual license. I think LONI should set aside funds for things like this, so that, if we are going to consolidate all the computing resources in one location, the software availability should be a consideration. He further stated that there are some other material science packages that are also critical, like VASP, for example, but VASP has a very nice policy that if you own a local license, for example my research group owns a local research group license for VAST, but we can compute anywhere that is available. So he can compute at the DOE Supercomputers, all it takes is an email from the VASP administration people to that computing center saying that this research group is allowed to use VASP. MATLAB has a similar policy. He thinks we need to explore those kinds of options. Dr. Stubblefield stated he would encourage anyone that has a particular listing of any of those types of software to forward them to Mr. Leger, so he can map them against the ones we currently have. If there is any way that we can possibly extend our license to the entire group as Dr. Ramachandran suggested. Dr. Tran asked about the \$15,000 Chemistry software that has been mentioned. Mr. Leger stated we have Gaussian, but he is not sure its scale. Mr. White stated one of the things top teraflops system allows is the use of a local campus license on a LONI resources. Some of that was not available on Queen Bee because, as he points out, not being at a particular university, a statewide system, they wanted LONI to buy a commercial license, which is much more expensive and it was never done. It is time for us to revisit some of those issues to see how much it

would cost to get the license with a new cluster and see if we can come up with the money. Dr. Ramanujam asked how they define “being at the university”, physically located? Dr. Ramachandran stated that he and Charlie McMahon had discussions with Gaussian when LONI first began, trying to convince Gaussian that LONI was a statewide virtual institution, but they said the license applies to person or persons who are physically present on the university campus and not configuration of the LONI machine.

Dr. Stubblefield asked for any additional comments or business, there being none, he thanked Dr. Ramachandran for his participation. Dr. Ramachandran thanked LONI for setting up the conference call capability. Dr. Subramanian added a point about conference calls and video conferencing. It is O.K. to have participation by telephone or video conferencing, but only present members count for quorum and voting purposes. Dr. Stubblefield asked for a motion for adjournment.

ADJOURNMENT

There being no further business to come before LONI Management Council, on a motion from Dr. Asoodeh, seconded by Mr. Nichols, the meeting was adjourned.